



**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2021-0463; Project Identifier 2018-SW-050-AD; Amendment 39-21698; AD 2021-17-15]**

**RIN 2120-AA64**

**Airworthiness Directives; Leonardo S.p.a. Helicopters**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for Leonardo S.p.a. Model AB139 and AW139 helicopters with certain main rotor blades installed. This AD was prompted by a report of an in-flight loss of a main rotor blade (MRB) tip cap. This AD requires inspecting the MRB tip cap for disbonding. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain document listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For service information identified in this final rule, contact Leonardo S.p.A. Helicopters, Emanuele Bufano, Head of Airworthiness, Viale G.Agusta 520, 21017 C.Costa di Samarate (Va) Italy; telephone +39-0331-225074; fax +39-0331-229046; or at <https://customerportal.leonardocompany.com/en-US/>. You may view the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information

on the availability of this material at the FAA, call (817) 222-5110. It is also available at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0463.

### **Examining the AD Docket**

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0463; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the European Aviation Safety Agency (now European Union Aviation Safety Agency) (EASA) AD, any comments received, and other information. The street address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Bang Nguyen, Aerospace Engineer, Certification Section, Fort Worth ACO Branch, Compliance & Airworthiness Division, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone (817) 222-4973; email [bang.nguyen@faa.gov](mailto:bang.nguyen@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to Leonardo S.p.a. Model AB139 and AW139 helicopters with an MRB that has less than 1,200 total hours time-in-service (TIS) and has part number (P/N) 3G6210A00131 with any serial number (S/N) listed in Table 1 of Leonardo Helicopters Alert Service Bulletin No. 139-520, dated April 26, 2018 (ASB 139-520), installed. The NPRM published in the *Federal Register* on June 16, 2021 (86 FR 31992). In the NPRM, the FAA proposed to require, within 50 hours TIS, tap inspecting each MRB tip cap for disbonding using a tap hammer or equivalent. If there is no disbonding, the NPRM proposed to require tap inspecting the MRB tip cap at intervals not to exceed 50 hours TIS. If there is any disbonding that does not exceed the specified limits in ASB 139-520, the NPRM proposed to require tap inspecting the MRB at intervals not to exceed 10 hours TIS. If there is any disbonding that exceeds the specified limits in ASB 139-520, the NPRM proposed to require removing the MRB from service

before further flight. The NPRM also specified that the accumulation of 1,200 total hours TIS on the affected part without findings of any disbonded area or with findings of any disbonded area that is within the permitted limits in Annex A of ASB 139-520 would constitute terminating action for the proposed repetitive inspections. Finally, the NPRM proposed to prohibit installing any MRB that is identified in the applicability section of this AD on any helicopter.

The NPRM was prompted by reports of incorrect bonding procedures on certain MRBs, which if not detected and corrected, could result in loss of the MRB tip cap, severe vibrations, and subsequent loss of control of the helicopter.

The FAA issued AD 2018-03-01, Amendment 39-19174 (83 FR 4136, January 30, 2018) (AD 2018-03-01) for Agusta S.p.A. (now Leonardo S.p.a.) Model AB139 and AW139 helicopters with MRB P/N 3G6210A00131 with an S/N 3615, 3634, 3667, or 3729 installed. AD 2018-03-01 requires inspecting the MRB tip cap for disbonding and was prompted by EASA AD 2017-0175-E, dated September 13, 2017 (EASA AD 2017-0175-E), issued by EASA, which is the Technical Agent for the Member States of the European Union. EASA advised of an in-flight loss of an MRB tip cap on an AW139 helicopter where the pilot was able to safely land the helicopter. EASA further advised that an investigation determined the cause as incorrect bonding procedures used during production on MRB P/N 3G6210A00131, S/N 3615, 3634, 3667, and 3729. According to EASA, this condition could result in loss of an MRB tip cap, increased pilot workload, and reduced control of the helicopter. To address this unsafe condition, EASA AD 2017-0175-E requires a one-time inspection of the affected MRB tip caps within 5 flight hours (FH) and replacing the affected MRBs within 10 FH if not replaced as a result of the inspection. EASA AD 2017-0175-E also prohibits installing the affected MRBs on a helicopter. AD 2018-03-01 requires the same corrective actions.

After the FAA issued AD 2018-03-01, EASA issued EASA AD 2018-0130, dated June 18, 2018 (EASA AD 2018-0130), to correct the same unsafe condition for Leonardo S.p.a. Model AB139 and AW139 helicopters with additional serial-numbered MRBs installed. EASA advises that further investigations after EASA AD 2017-0175-E was issued determined that another batch of P/N 3G6210A00131 MRBs may have been

subject to the incorrect bonding procedure, but to a less critical extent. EASA AD 2018-0130, which neither revises nor supersedes EASA AD 2017-0175-E, applies to the following serial-numbered MRBs with less than 1,200 FH: 2709, 3558, 3624, 3707, 3790, 3486, 3561, 3625, 3717, 3795, 3488, 3569, 3626, 3720, 3798, 3495, 3570, 3627, 3725, 3803, 3500, 3574, 3628, 3726, 3807, 3501, 3575, 3633, 3734, 3812, 3502, 3582, 3636, 3735, 3822, 3503, 3583, 3638, 3738, 3824, 3508, 3586, 3642, 3739, 3825, 3510, 3590, 3648, 3741, 3827, 3513, 3592, 3649, 3743, 3831, 3520, 3595, 3650, 3744, 3832, 3527, 3597, 3651, 3745, 3838, 3528, 3599, 3657, 3753, 3841, 3529, 3602, 3665, 3754, 3842, 3531, 3603, 3672, 3761, 3847, 3536, 3605, 3682, 3766, 3850, 3539, 3609, 3684, 3770, 3851, 3544, 3612, 3686, 3771, 3852, 3549, 3613, 3690, 3777, 3853, 3551, 3616, 3691, 3783, 3854, 3556, 3620, 3695, 3788, 3855, 3557, 3622, 3696, and 3789.

Accordingly, EASA AD 2018-0130 requires within 50 FH and thereafter at intervals not to exceed 50 FH, tap inspecting the MRB for disbonding. If there is disbonding within permitted limits, EASA AD 2018-0130 requires tap inspecting the disbonded area within 10 FH and thereafter at intervals not to exceed 10 FH. If disbonding that exceeds the permitted limits is found during any inspection, EASA AD 2018-0130 requires replacing the part. EASA AD 2018-0130 also prohibits installing the affected part unless it is a serviceable part and includes a terminating action for the repetitive inspections, which is accumulation of 1,200 FH by an affected part without findings of disbonded area, or findings of disbonded area within the limits specified in Annex A of ASB 139-520.

### **Discussion of Final Airworthiness Directive**

The FAA received no comments on the NPRM or on the determination of the costs.

### **Conclusion**

These helicopters have been approved by EASA and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with the European Union, EASA has notified the FAA about the unsafe condition described in its AD. The FAA reviewed the relevant data and determined that air safety requires adopting this AD as

proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these helicopters.

### **Related Service Information Under 1 CFR Part 51**

The FAA reviewed ASB 139-520. This service information specifies procedures for repetitively inspecting the tip cap on a certain batch of MRBs for disbonding using a tap test and replacing the MRB if disbonding is not within permitted limits.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

### **Differences Between this AD and the EASA AD**

EASA AD 2018-0130 allows replacing an affected part with a serviceable part, which is marked with the letter “R” (repaired tip cap) as the last digit of the S/N, as a terminating action for the repetitive inspections specified in that AD, whereas this AD does not.

### **Costs of Compliance**

The FAA estimates that this AD affects 114 helicopters of U.S. Registry. Labor rates are estimated at \$85 per work-hour. Based on these numbers, the FAA estimates the following costs to comply with this AD.

Tap inspecting an MRB tip cap takes 1 work-hour, for a cost per helicopter of \$85 per inspection cycle for a total U.S. fleet cost of \$9,690 per inspection cycle. Replacing 1 MRB, if required, takes 4 work-hours, and required parts cost \$141,725, for a total cost of \$142,065 per MRB.

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected operators.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency’s authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on helicopters identified in this rulemaking action.

### **Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **The Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive:

**2021-17-15 Leonardo S.p.a.:** Amendment 39-21698; Docket No. FAA-2021-0463; Project Identifier 2018-SW-050-AD.

**(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Leonardo S.p.a. Model AB139 and AW139 helicopters, certificated in any category, with a main rotor blade (MRB) that has less than 1,200 total hours time-in-service (TIS) and has part number 3G6210A00131 with any serial number listed in Table 1 of Leonardo Helicopters Alert Service Bulletin No. 139-520, dated April 26, 2018 (ASB 139-520), installed.

**(d) Subject**

Joint Aircraft Service Component (JASC) Code: 6210, Main Rotor Blades.

**(e) Unsafe Condition**

This AD was prompted by a report of disbonding of an MRB tip cap, which if not detected and corrected, could result in loss of the MRB tip cap, severe vibrations, and subsequent loss of control of the helicopter.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Required Actions**

(1) Within 50 hours TIS after the effective date of this AD, using a tap hammer or equivalent, tap inspect each MRB tip cap for disbonding in the area depicted in Figure 1 of ASB 139-520.

(i) If there is no disbonding, tap inspect each MRB tip cap as required by paragraph (g)(1) of this AD at intervals not to exceed 50 hours TIS.

(ii) If there is any disbonding that does not exceed the limits specified in Annex A, paragraphs 2.3 and 2.4 of ASB 139-520, tap inspect the MRB tip cap as required by paragraph (g)(1) of this AD at intervals not to exceed 10 hours TIS.

(iii) If there is any disbonding that exceeds the limits specified in Annex A, paragraphs 2.3 and 2.4 of ASB 139-520, remove the MRB from service before further flight.

(2) Accumulation of 1,200 total hours TIS on the affected part without findings of any disbonded area or with findings of any disbonded area that is within the permitted limits specified in Annex A, paragraphs 2.3 and 2.4 of ASB 139-520, constitutes terminating action for the repetitive inspections required by paragraphs (g)(1)(i) and (ii) of this AD.

(3) As of effective date of this AD, do not install any MRB that is identified in paragraph (c) of this AD on any helicopter.

**(h) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the International Validation Branch, send it to the attention of the person identified in paragraph (i)(1) of this AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(i) Related Information**

(1) For more information about this AD, contact Bang Nguyen, Aerospace Engineer, Certification Section, Fort Worth ACO Branch, Compliance & Airworthiness Division, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone (817) 222-4973; email bang.nguyen@faa.gov.

(2) The subject of this AD is addressed in European Aviation Safety Agency (now European Union Aviation Safety Agency) (EASA) AD 2018-0130, dated June 18, 2018. You may view the EASA AD at <https://www.regulations.gov> in Docket No. FAA-2021-0463.



**(j) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Leonardo Helicopters Alert Service Bulletin No. 139-520, dated April 26, 2018.

(ii) [Reserved]

(3) For service information identified in this AD, contact Leonardo S.p.A. Helicopters, Emanuele Bufano, Head of Airworthiness, Viale G.Agusta 520, 21017 C.Costa di Samarate (Va) Italy; telephone +39-0331-225074; fax +39-0331-229046; or at <https://customerportal.leonardocompany.com/en-US/>.

(4) You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov), or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on August 13, 2021.

Lance T. Gant, Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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